

**THE RECOGNITION OF SUBSPECIES IN *DENDROBIUM DISCOLOR* LINDLEY (ORCHIDACEAE)**

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**Summary**

*Dendrobium discolor* has two different labellum shapes which are geographically correlated. No apparent intergradation of this variation in labellum shape has been observed. The northern populations in Australia and those in New Guinea are given subspecific status as *D. discolor* subsp. *incurvata* D. Liddle & P. Forster.

*Dendrobium discolor* Lindley is a commonly encountered lithophytic or epiphytic orchid in coastal areas of north Queensland and parts of New Guinea (Dockrill 1969, Cribb 1986). These authors noted that it is an extremely variable species, especially in the form, size and colour of the flowers. Cribb (1986) detailed the numerous varieties ascribed to this species throughout its taxonomic history. He concluded that "*D. discolor* is in nature, extremely variable. The variation seems more or less continuous rather than disjunct and it is probable that the recognition of so many distinct varieties is unwarranted."

We agree that *D. discolor* is very variable and that recognition of any of the varieties described is unnecessary. However examination of various clones of this species both in their natural habitat and in cultivation reveals that the shape of the labellum (lip of Cribb) may be correlated with geographical origin. Populations originating from Coen and further north all have labellums with narrowly obtuse to acute lateral lobes which either incurve over the column with the upper portions of each lobes touching at the apex (Fig. 1C-D) or are erect. Plants from New Guinea with this feature were illustrated by Millar (1978). Populations south of Coen all have labellums with ascending lateral lobes with rounded to broadly obtuse lateral lobes (Fig. 1A-B), as illustrated by Dockrill (1969), Jones (1988) and Upton (1989). This distinction is obvious even in pressed herbarium material which we examined at BRI and QRS.

Because this variation can be correlated with the place of origin and is not random, we believe that it is worthy of recognition at the subspecific level.

Examination of the illustration of the type specimen of *D. discolor* shows a plant with broadly obtuse, ascending lateral lobes of the labellum.

***Dendrobium discolor*** Lindley in Edwards, Bot. Reg. 27: t. 52 & misc. 21 (1841). Type: cult. *Loddiges* (holo: K, n.v.), *vide* Cribb, Kew Bull. 41: 665 (1986). Dockrill, Austr. Indig. Orchids 1: 468 (1969); Cribb, Kew Bull. 41: 665-667 (1986).

A comprehensive description of the species may be found in Cribb (*loc. cit.*) or Dockrill (*loc. cit.*).

**Key to subspecies**

1. Lateral lobes of the labellum rounded to broadly obtuse, ascending . . . . . subsp. **discolor**
- Lateral lobes of the labellum narrowly obtuse to acute, incurved with the outer edges touching, or erect . . . . . subsp. **incurvata**

**D. discolor** subsp. **discolor**

Labellum 12–15 mm long, 11–12 mm wide; lateral lobes rounded to broadly obtuse, 7.3–7.5 mm wide at broadest point, ascending; mid-lobe broadly lanceolate, 5–6 mm long, 6–7 mm wide. **Fig. 1A & B.**

**Selected specimens:** Queensland. COOK DISTRICT: 0.5 km W of the beach on the track from the beach north of the McIvor River to Starke Stn, 15°07'S, 145°14'E, Jul 1987, *Clarkson* 7283 (BRI); Near banks of Bloomfield River, Nov 1978, *Scarath-Johnson* 791A (BRI); Bloomfield Beach, Sep 1960, *Smith* 11075 (BRI); cult. Mareeba (ex Schnapper Is, off shore from Cape Kimberley), Jul 1989, *Liddle* [AQ456941] (BRI); Limestone Quarry, Big Mitchell Ck, 16°46'S, 145°24'E, Jul 1984, *Gray* 3392 (QRS); cult. Mareeba (ex Daintree), Jun 1988, *Liddle* [AQ429666] (BRI); cult. Mareeba (ex Daintree ferry), Jul 1989, *Liddle* [AQ456947] (BRI). NORTH KENNEDY DISTRICT: Proserpine, Oct 1934, *Macpherson* [QRS044078] (QRS). SOUTH KENNEDY DISTRICT: Mackay, Oct 1887, *Griffith* 87 (BRI). PORT CURTIS DISTRICT: Batten Is, 23°10'S, 151°05'E, *Batianoff* 9648 & *Dillewaard* (BRI); Agnes Waters, 24°14'S, 151°56'E, Aug 1987, *Gibson* N872 (BRI).

**Distribution and habitat:** Confined to eastern Australia from the McIvor River area north of Cooktown to Agnes Waters in the south. Plants are epiphytic or lithophytic and common on rocky headlands and islands.

**Notes:** This subspecies has been widely used in the production of interspecific hybrids with the ascending lateral lobes of the labellum remaining a feature of such plants. By comparison subsp. *incurvata* has been little used for producing hybrids for cultivation and considerable potential exists for the production of hybrids with an incurved labellum.

**D. discolor** subsp. *incurvata* D. Liddle & P. Forster **subsp. nov.** a subsp. *discolore* lobis lateralibus labelli anguste obtusis usque acutis et incurvis partibus superis uterque lobi ad apicem contiguus vel erectis (non ascendentibus) differt. **Typus:** Queensland. COOK DISTRICT: Upper Pascoe River, 12°55'S, 143°00'E, 5 July 1972, *A.W. Dockrill* 471 (holo: QRS; iso: BRI).

Labellum 10–12 mm long, 5.4–6 mm wide; lateral lobes narrowly obtuse to acute, 6–7.4 mm wide at broadest point, incurved over the column and touching at the upper edges or erect; mid-lobe narrowly lanceolate, 4.5–7 mm long, 3–5 mm wide. **Fig. 1C–D.**

**Selected specimens:** Papua New Guinea. WESTERN DISTRICT: Suki Ck, 8°05'S, 141°10'E, Mar 1968, *Millar* NGF35349 (BRI); Pangoa Airstrip, Lake Murray, 8°05'S, 141°15'E, Mar 1968, *Millar* NGF35425 (BRI); Brown River, Edihu Ck, 9°15'S, 147°20'E, Aug 1970, *Millar* NGF48601 (BRI). CENTRAL DISTRICT: Sogeri, 9°20'S, 150°25'E, Mar 1969, *Millar* NGF40850 (BRI). Australia, Queensland. COOK DISTRICT: cult. Mareeba (ex Ida Is), Jul 1989, *Liddle* [AQ456942] (BRI); Bamaga, Aug 1980, *Scarath-Johnson* 960A (BRI); Muttee Head, Jun 1988, *Kenning* [AQ408935] (BRI); Olive River, 12°10'S, 143°305'E, Sep 1974, *Hyland* 7418 (QRS); Kennedy Hill Gorge, 12°28'S, 143°16'E, Jun 1989, *Forster* 5405 (BRI); Claudie River, 12°45'S, 143°15'E, Jun 1972, *Dockrill* 446 (BRI, QRS); Lower reaches Claudie River, 12°50'S, 143°20'E, Jun 1972, *Stocker* 886 (QRS); Leo Ck, upstream from falls, on eastern fall of McIlwraith Range, 13°40'S, 143°23'E, Jul 1978, *Clarkson* 2390 (BRI); Rocky River, T.R.14, 13°40'S, 143°25', Sep 1973, *Stocker* 1060 (QRS); Rocky River, 13°50'S, 143°25'E, Sep 1971, *Stocker* 801 (QRS); cult. Mareeba (ex Coen), Jun 1988, *Liddle* [AQ429663] (BRI); cult. Mareeba (ex Mulingar), Jul 1989, *Liddle* [AQ456940] (BRI).

**Distribution and habitat:** Southern parts of New Guinea, some associated islands, in eastern Australia from the tip of Cape York Peninsula, south to Coen. Plants may be lithophytic or epiphytic and grow in similar situations to those of subsp. *discolor*.

**Notes:** There are numerous names at both specific and varietal level in the synonymy of *D. discolor* (Cribb 1986). At least one at species level (*D. arachnanthe* Kraenzl.) and several at varietal level (e.g. *D. discolor* var. *fimbrilabium* H.G. Reichb., *D. discolor* var. *albertisiana* F. Muell.) have types which would probably render them applicable to the new subspecies described above. We have refrained from using any of these names as they are not descriptive of the features emphasized here.

**Etymology:** The subspecific epithet is derived from the incurved nature of the labellum lobes.

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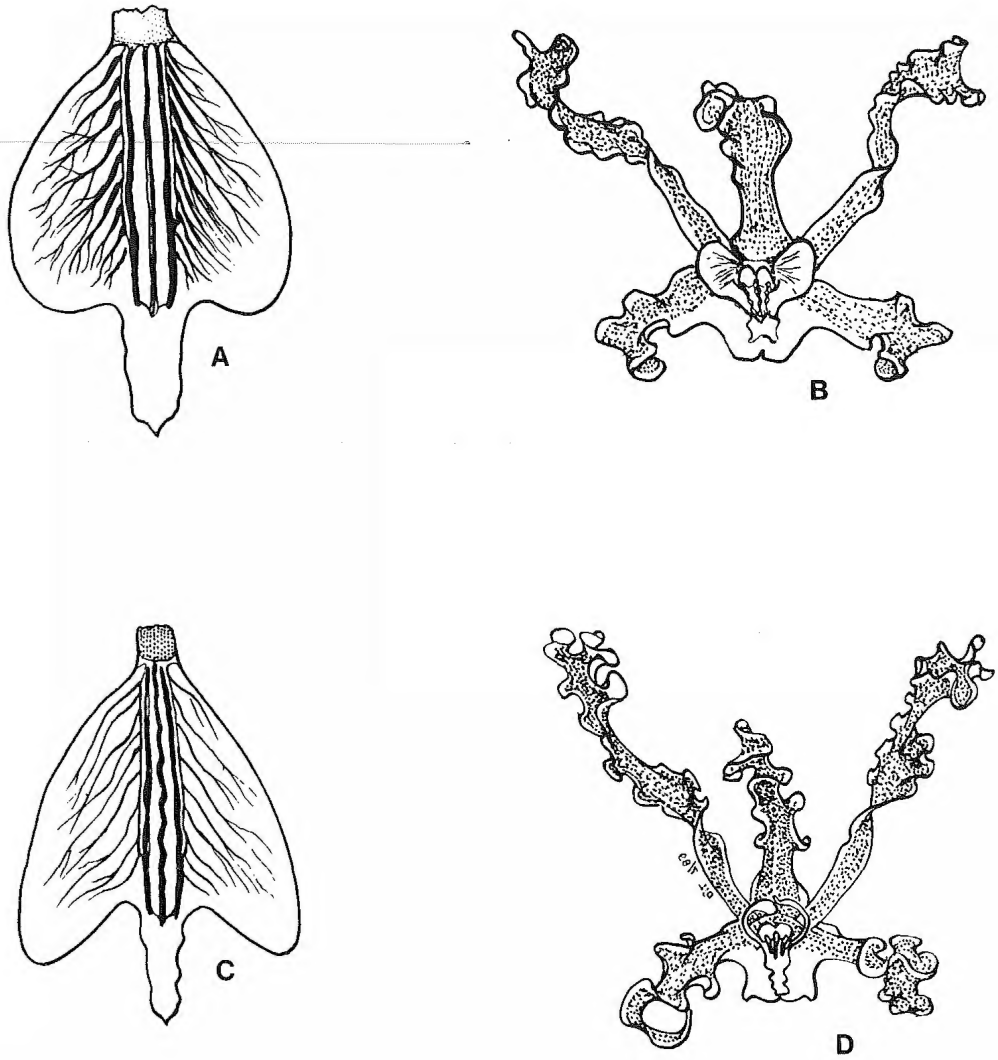


Fig. 1. *Dendrobium discolor* subsp. *discolor*. A. face view of flattened labellum showing rounded lateral lobes,  $\times 2.4$ . B. face view of flower showing descending lateral lobes of the labellum  $\times 1.1$ . *Dendrobium discolor* subsp. *incurvata*: C. face view of flattened labellum showing narrowly obtuse lateral lobes  $\times 2.4$ . D. face view of flower showing incurved lateral lobes of the labellum  $\times 1.1$ . A,B, from live material of Liddle [AQ456941]; C,D, from live material of Liddle [AQ456940].

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